

Notice of Allowability

Application No.

10/660,530

Examiner

William T. Leader

Applicant(s)

YEN, SHIOW-KANG

Art Unit

1742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☐ This communication is responsive to ____.
2. ☒ The allowed claim(s) is/are 1-39.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: ____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date ____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date ____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date ____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date ____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other ____

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Bruce Troxell on September 30, 2005.

The application has been amended as follows:

In the Claims:

Claim 9 has been rewritten as follows:

9. (amended) The process of claim 1, wherein the concentrations of $\text{Ca}(\text{NO}_3)_2 \cdot 4\text{H}_2\text{O}$ and $\text{NH}_4\text{H}_2\text{PO}_4$ in the mixed solution are respectively 0.02M~0.15M ~~[n]~~ and 0.005M~0.5M [°].

Claim 30 has been rewritten as follows:

30. (amended) The process of claim 22, wherein the concentrations of $\text{Ca}(\text{NO}_3)_2 \cdot 4\text{H}_2\text{O}$ and $\text{NH}_4\text{H}_2\text{PO}_4$ in the mixed solution are respectively 0.02M~0.15M ~~[n]~~ and 0.005M~0.5M [°].

COMMENTS

2. These changes have been made to replace the Chinese character with "and" and place a period at the end of the claims.

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3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The Arima et al patent (5,480,438) is directed to a bioactive ceramic-coated surgical implant. In the Background of the Invention section, Arima et al describe Japanese laid-open Patent Publication No. 58-50737 as disclosing an inner ceramic layer, which may be ZrO_2 , sprayed onto a metal substrate and a porous layer containing hydroxyapatite to supplement the inner layer (column 1, line 62 to column 2, line 2). Scharnweber et al (5,723,038) is directed to a process for producing a calcium phosphate, particularly hydroxyapatite, coating on metallic implants. The Teller et al patent (5,759,376) is directed to a method for the electrodeposition of hydroxyapatite layers. The Schwartz et al patent (6,645,644) is directed to enhanced bonding of phosphoric acids to oxidized substrates and discloses the use of an intermediate layer, for example of zirconium dioxide, to enhance hydroxyapatite adhesion (column 1, line 63 to column 2, line 5). The Zhang et al pregrant publication (2003/0099762) is directed to multi-layer coatings for implants and discloses the deposition of a bond coating prior to the deposition of a layer containing apatite.

4. The following is an examiner's statement of reasons for allowance: The prior art of record shows that it is known to deposit a zirconium oxide layer prior to the deposition of a hydroxyapatite layer. However, the prior art does not disclose nor suggest the formation of these layers on a Co-Cr-Mo substrate by a sequential electrolytic deposition process from baths containing the constituents recited in the instant claims followed by sintering to form a HA/ZrO_2 complex coating.


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Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William T. Leader whose telephone number is 571-272-1245. The examiner can normally be reached on Mondays-Thursdays and alternate Fridays, 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King, can be reached on 571-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


William Leader
September 30, 2005


ROY KING
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700